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## WHAT IS CLAIMED IS:

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- A transceiver, comprising:
  a transmitter having an output to couple a transmission signal to an antenna; and a receiver having an input responsive to a receive signal from the antenna, the receiver input being directly connected to the transmitter output.
- 2. The transceiver of claim 1 wherein the transmitter output is disabled when the receiver input is enabled, and the receiver input is disabled when the transmitter output is enabled.
- 3. The transceiver of claim 1 wherein the transmitter includes a power amplifier having the transmitter output, and the receiver comprises a low noise amplifier comprising the receiver input.
- 4. The transceiver of claim 1 wherein the connected transmitter output and receiver input comprise a differential line, the transceiver further comprising a matching circuit to interface the differential line to the antenna, the antenna being single-ended.
- 5. The transceiver of claim 4 wherein the matching circuit comprises a series capacitor and shunt inductor coupled to one of the differential lines, and a series inductor and shunt capacitor coupled to a second one of the differential lines.
- 6. The transceiver of claim 5 wherein the series capacitor, shunt inductor, series inductor and shunt capacitor each comprises a value that in combination substantially match an impedance of the antenna.
- 7. The transceiver of claim 6 wherein the transmitter output is disabled when the receiver input is enabled, and the receiver input is disabled when the transmitter output is enabled.
- 30 8. The transceiver of claim 7 wherein the values for the series capacitor, shunt inductor, series inductor and shunt capacitor further compensate for a first capacitance of the receiver input when disabled and a second capacitance of the transmitter output when disabled.
  - 9. The transceiver of claim 4 wherein the transmitter output comprises a differential transistor pair each having a drain coupled to a different one of the differential lines.



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The transceiver of claim 9 wherein the receiver input comprises a second differential 10. transistor pair each having a gate coupled to a different one of the differential lines.

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The transceiver of claim 4 wherein the receiver input comprises a differential transistor 11. pair each having a gate coupled to a different one of the differential lines.

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The transceiver of claim 11 wherein the transmitter output comprises a second 12. differential transistor pair each having a drain coupled to a different one of the differential lines.

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A method of coupling a transceiver to an antenna, the transceiver having a transmitter 13. output and a receiver input connected directly together, the method comprising:

disabling the receiver input;

transmitting a transmission signal from the transmitter output to the antenna with the receiver disabled:

disabled.

disabling the transmitter and enabling the receiver; and receiving a receive signal from the antenna at the receiver with the transmitter

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The method of claim 13 wherein the transmitter includes a power amplifier having the 14. transmitter output, and the receiver comprises a low noise amplifier comprising the receiver input.

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The method of claim 13 wherein the connected transmitter output and receiver input 15. comprise a differential line, the method further comprising matching the differential line to the antenna, the antenna being single-ended.

The method of claim 15 wherein the matching of the differential line to the antenna 16. when the transmitter is enabled comprises shifting a first signal on one of the differential lines by 90 degrees, shifting a second/signal on a second one of the differential lines by 90 degrees in an opposite direction, and combining the shifted first and second signals.

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The/method of claim 15 wherein the matching of the differential line to the antenna 17. further comprises compensating for a capacitance resulting from the receiver being disabled.

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- 18. The transceiver of claim 15 wherein the matching of the differential line to the antenna when the receiver is enabled comprises splitting a signal from the antenna into first and second signals, coupling the first signal to one of the differential lines, coupling the second signal to a second one of the differential lines, shifting the first signal by 90 degrees, and shifting the second signal by 90 degrees in an opposite direction.
- 19. The method of claim 15 wherein the matching of the differential line to the antenna further comprises compensating for a capacitance resulting from the transmitter being disabled.

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20. A transceiver, comprising:

a transmitter having an output to couple a transmission signal to an antenna;

a receiver having an input responsive to a receive signal from the antenna, the receiver input being directly connected to the transmitter output; and

matching means for matching the connected transmitter output and receiver input to the antenna.

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The transceiver of claim 20 wherein the transmitter further comprises means for disabling the transmitter output when the receiver input is responsive to the receive signal from the antenna, and the receiver further comprises means for disabling the receiver input when the transmitter output is coupling the transmission signal to the antenna.

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22. The transceiver of claim 20 wherein the transmitter includes a power amplifier having the transmitter output, and the receiver comprises a low noise amplifier comprising the receiver input.

23. The transceiver of claim 20 wherein the connected transmitter output and receiver input comprise a differential line, and the matching means comprises means for interfacing the differential line to the antenna, the antenna being single-ended.

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24. The transceiver of claim 23 wherein the matching means further comprises a series capacitor and shunt inductor coupled to one of the differential lines, and a series inductor and shunt capacitor coupled to a second one of the differential lines.

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25. The transceiver of claim 24 wherein the series capacitor, shunt inductor, series inductor and shunt capacitor each comprises a value that in combination substantially match an impedance of the antenna.

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26. The transceiver of claim 25 wherein the transmitter further comprises means for disabling the transmitter output when the receiver input is responsive to the receive signal from the antenna, and the receiver further comprises means for disabling the receiver input when the transmitter output is coupling the transmission signal to the antenna.

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27. The transceiver of claim 26 wherein the values for the series capacitor, shunt inductor, series inductor and shunt capacitor further compensate for a first capacitance of the receiver input when disabled and a second capacitance of the transmitter output when disabled.

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28. The transceiver of claim 23 wherein the transmitter output comprises a differential transistor pair each having a drain coupled to a different one of the differential lines.

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29. The transceiver of claim 28 wherein the receiver input comprises a second differential transistor pair each having a gate coupled to a different one of the differential lines.

30. The transceiver of claim 23 wherein the receiver input comprises a differential transistor pair each having a gate coupled to a different one of the differential lines.

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31. The transceiver of claim 30 wherein the transmitter output comprises a second differential transistor pair each having a drain coupled to a different one of the differential lines.

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